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The Syntax of Negation in Tocharian[1]

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Abstract

The present article surveys the system of negation in Tocharian, comprising the free syntactic negative, which is movable, and and the bound morphological negative, which is a prefix. For the syntactic negation, the rules of negative placement in Tocharian declaratives, interrogatives and directives are documented. The syntactic negative of Tocharian primarily serves as a verbal negator that can also be moved before nominal phrases to serve as a DP-external constituent negation. When used DP-internally to negate attributive adjectives, the inherited negative particle is incorporated into the adjective as a morphological prefix (DP-internal negation incorporation).

Keywords: negation, syntax, morphology, syntactic and morphological negation, Tocharian.

1. Introduction

Berthold Delbrück's classic four-volume work the *Vergleichende Syntax der indogermanischen Sprachen* of 1897, forms part of Brugmann's *Grundriss der Vergleichenden Grammatik der indogermanischen Sprachen* as its fourth volume. Delbrück covers the Indo-European languages and Indo-European branches that were known at the end of the 19th century: *Altindisch, Altiranisch, Avestisch, Altpersisch, Altarmenisch, Altgriechisch, Lateinisch, Umbrisch-Samnitisch, Altirisch, Gotisch, Althochdeutsch, Litauisch,* and *Altkirchenslavisch*. He was not able to cover the Indo-European language families Anatolian and Tocharian, since they were first recognized as Indo-European and systematically studied from the early 20th century. The purpose of my contribution is to fill this gap remaining for Tocharian, documenting its syntax and morphology of negation.

1.1 Inventory of Negation in Tocharian

a. simple negation

Tocharian B *mā* (and non-prohibitive A *mā*) is the all-purpose negative particle for all clause types. It ultimately comes from PIE **ne* by contamination with prohibitive **mḗ*[2] or better, laryngeal-final **méh$_1$* (Alb. *mos*, Greek μή, Arm. *mi*, Ved. *mā́*), which is recommended under the presumed deverbal original of the particle (imperative **stop!* per Oettinger 2002: 497, or **meh$_1$*! 'let go!' per Plötz 2022: 345–347), thus vouchsafing a root-final coda. PIE **ē* yields an open central vowel Toch. *ā/a* in monosyllables of the structure CV; see Hackstein 2017: 1313.

The Tocharian A prohibitive *mar* 'don't, well/please!' is likely composed of A *mā* and enclitic *=r*, which possibly derives from **h$_1$ara* 'rightly, well', as preserved in Toch. A *ar-* in *aryu*; compare Hittite *āra* and Gk. ἄρα, and cf. Dunkel 2014: 288–291, Hackstein 2016/17: 221–222[3]. PIE **ē* yields Toch.A *-a-* in closed syllables; cf. CToch. **wēnto-* > A *want* 'wind'.

b. phasal negation

Alongside the simple declarative negators [AB]*mā*, prohibitive [B]*mā*, and [A]*mar*, Tocharian employs a system of phasal negators, conveying various aspectual and modal features. A non-exhaustive list follows here.

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[1] The present article complements a cycle of articles devoted to the examination of the morphology and syntax of negation in old Indo-European languages: cf. Hackstein 2016/17 on Ancient Greek and Hackstein 2020 on Albanian. Many thanks to the audiences of the Munich seminar on negation (3 November 2022) and the Delbrück symposium (Verona, 11 November 2022) for their feedback on earlier versions of this paper, especially to Alexander Nikolaev, Giulio Imberciadori, Ryan Sandell, and Tony Yates.

[2] None of the cognates requires a laryngeal; see Kim 2018: 111.

[3] This is not taken into account by Barnes 2022.

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Inchoative negative: Tocharian employs B *māwk*, *mā$_u$k*, and A *mā ok* as a complex phasal negation with inchoative negative meaning, thus 'not yet' (cf., e.g., THT928 = A295a6, THT951 = A317a6; THT = B330b4, cf. Peyrot 2013: 699), correctly glossed with 'noch nicht' by Sieg, Siegling & Schulze 1931: 304, Krause & Thomas 1960: 172 §292, and likewise 'nondum' by Poucha 1955: 42, 218 and *DTA* 336. Tocharian [B]*māwk*, *mā$_u$k*, [A]*mā ok* precisely matches the meaning of NHG *noch nicht*, OHG *ni … noh* 'not yet' and invites formal comparison with OHG *noh*, MHG *noch* 'and not, neither' (from PIE **ne h$_2$u k^{w}e* > PGerm. **nauh* > OHG **nôh*, with proclitic shortening to *noh*[4]), and with Alb. *nuk* 'not' from **n(e) ≀(h$_2$)u ≀k$^{(w)}$(e)* 'not however as yet', 'not yet' (cf. Hackstein 2016/17: 241 and Payne, Bauer, Sasseville, Hackstein 2023).[5] Etymologically non-negated [A]*ok* belongs to [A]*okā-k* 'and, until' from PIE **h$_2$e$\underline{u}$≀k$^{(w)}$(e)*, (allative) **h$_2$e$\underline{u}$≀k$^{(w)}$e-h$_2$*, ablauting with PIE **h$_2$u-k^{w}e* 'and furthermore', as continued in Ved. *u ca*, and possibly Phryg. υ κε, CeltIb. *auku* 'and', Goth. *-uh* (Dunkel 2014: 340, Klein 2016: 196);[6] for the overlap of additive function and terminative function meaning 'until', cf. **h$_2$n̥tí* > Goth. *und* 'until', OS *und*, *unt* 'until, while' (cf. Lühr 2000: 186).[7]

Another phasal negator is [A]*mā=r-yu* 'not before long'. Greek declarative οὐκ ἄρα and interrogative (ἦ ἄρα οὐ >) ἆρα οὐ can be cognate with Hitt. *natta āra* under the PIE reconstruction **ne h$_1$ara h$_2$i$\underline{e}\underline{u}$* 'not well for a long time' (Hackstein 2016/17: 241–242).

Modal particles modifying the negator [AB]*mā* include [B]*nta*, [A]*ontaṃ*, which carries focus force and therefore frequently fronts the negation ([B]*manta*, *mänta* 'never'; cf. Adams 2015: 53–54; on [A]*mā ontaṃ*, *mar ontaṃ* 'never', cf. *DTA* 82–83), and the modal partical *-pi* in interrogative negative [B]*mapi*, *mäpi*, which is employed in interrogatives as a fronted affirmative-bias question particle (Hackstein 2016b: 172–173 §3.5) and in declaratives as an affirmative-causal particle (Hackstein 2016b: 165–166 §2.5.3.2).

1.2 Tocharian Word Order and Negation Placement

The basic word order of Tocharian matches that of Hittite and reconstructed PIE in showing all the syntactic parameters usually expected for a SOV language. Tocharian thus augments the evidence that has thus far been collected for PIE as an SOV language, as surveyed by Watkins 1976 and restated in Watkins 1998: 68, Hackstein 2003: 133–135, Keydana 2018: 2199. For additional surveys, cf. Adams 2015: 15–23 and Carling 2017. In my short 2003 survey, I mentioned the basic Greenberg characteristics of OV languages, i.e., verb-final declaratives, postpositions, modifier plus head structure, preposed relatives, infinitive plus auxiliary, and, absent from Greenberg's list of OV characteristics, the postposing of appositions, which frequently correlates with OV in languages, such as Anatolian and many non-IE OV-type languages like Turkish and Japanese (for extensive documentation, see Hackstein 2010). The typological feature of postposed appositions is important, since it is a pervasive syntactic feature shared by Tocharian and Anatolian (cf. the postposition of the kinship term / honorary title 'father', e.g., Toch. A *mahendradeve pācar*, Luwian *Tiwatī dātī*), and fossilized in the designation of the highest god the Indo-European pantheon, e.g., Latin *Iuppiter*, Homeric Greek Ζεῦ πάτερ, Vedic *dyàuṣ pítar* (Hackstein 2010: 12–13). Regarding previous work on Tocharian syntax, there is still much further headway that can be made. What matters especially for present purposes is the default clause-final placement of verbs, which applies, it should be noted, not only to declaratives,

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[4] See Dunkel 2014: 538 fn. 49, and Bichlmeier in *EWA* 6.1017.

[5] The alternative proposal advanced by Fellner (2021), namely, to add Toch. A *māwk* as a further match with Alb. *as* and Greek οὐκ, Hom. οὐκί from PIE **ne h$_2$oi̯u-k^{w}id* (cf. Hackstein 2016/17, Joseph 2022; note that Arm. *oč*^{c} likely derives not from PIE **ne h$_2$oi̯u-k^{w}id* but rather from PIE **ne k^{w}ote-k^{w}id* as per Fortson 2018/19) is fraught with problems. Phonologically, there are no other examples of contraction across **i̯* in the position /**o_u*; cf. Ringe 1994: 52–56, Hackstein 1995: 255n140, Pinault 2012: 263 (with no discussion of Ringe), and Toch. [B]*āyu* 'I shall give' < **h$_1$ai̯-oh$_2$*. Semantically, describing [B]*māwk*, *mā$_u$k*, [A]*mā ok* as an 'emphatic negation' (Adams 2015: 55) or translating it as plain 'not' (Fellner 2021: 130–132) is simply erroneous.

[6] Compare, in addition, **h$_2$u-té* 'dazu' in Ved. *utá* 'and', Gk. αὖτε 'and again, furthermore' (Dunkel 2014: 337–338).

[7] An alternative etymological connection with Goth. *auk* 'because, but, also' from PIE **h$_2$e$\underline{u}$g-* has been suggested by Adams 2013: 136 s.v. [2]*auk* glossed as 'not again'. However, [A]*mā ok* does not mean 'not again', but 'not yet'.

but also to interrogatives and directives. As a matter of fact, there are subsetting rules that license leftward verb movements of various kinds.

Verb-final declaratives are abundant in everyday Tocharian B prose, e.g., in the caption of a wall painting:

(1) *tane* *bodhisatve* *nandai* *nandabalaimeṃ*
here Bodhisattva:NOM Nandā:OBL Nandabalā:OBL.ABL
oṅkorñai *pintwāt* ***wärpanaträ***
porridge:OBL alm:OBL receive:PRS.3SG.MID
'Here, the Bodhisattva is receiving porridge for himself as an alm from Nandā and Nadabalā.' (Pinault 2000: 161, no. 33 and Schmidt 2010: 851, no. 31).

Verb-final interrogatives are frequent too, cf.

(2) *ate* *kampāl* ***yamaṣasta***
away coat:OBL do:PRT.2SG
'Have you put [your] coat away?' (THT=B337a5).

For more polar questions with finite verb *in situ*, see Hackstein 2013: 110–113. Subsetting rules allow the fronting of finite verbs and the negation in polar questions; see *ibidem*.

Verb-final directives are likewise attested in non-negated (3a)

(3a) *cwim* *nai* *tāṃ* *oṅkorñai* ***kalas***
that.one:GEN naturally this:OBL porridge:OBL give:IMP.2PL
'To that one, deliver the porridge!' (THT=B107b1).

and, under negation, verb-final prohibitives, in (3b).

(3b) ***mā*** *ñiś* *cempaṃts* *rakṣatsents* ***aiṣṣäṃ***
NEG I:OBL these:GEN.PL rakṣa:GEN.PL give:PRS[IND].3SG
'He must not give me to those Rakṣas!' (THT=B85a2).

On the whole, little research has been conducted on the syntax of negation in Tocharian. Sieg, Siegling & Schulze 1931: 316–317 devoted only two pages to the syntactic negation in Tocharian A, where they even neglect to discuss its word order. Krause & Thomas 1960: 172 dispensed with the discussion of the syntax of negation altogether. Adams 2015: 53–56 devotes three and a half pages to syntactic negation, but again with no discussion of its word order.

1.3 Sentence and constituent negation in Tocharian

In 1897, Delbrück, basing himself on data from Vedic (as before in Delbrück 1888: 542), Latin, Greek, Baltic, Slavic and Germanic, proposed the following reconstruction of the syntactic uses of the PIE negation **ne*:

> Like **mē*, **ne* is used to negate the sentence. Both negative particles can only occur with finite verbs (…) **Ne* is the declarative negative. (…) This definition entails two natural positions [for the negative particle], either immediately before the verb or – if the negation of entire proposition intended – in sentence-initial position. (Delbrück 1897: 52; cf. Hirt 1937: 72–73) ["Wie **mē* ist **ne* Satznegation. Beide können nur mit Formen des Verbum finitum verbunden werden (…) **Ne* ist die Negation des Aussagesatzes. (…) Aus dieser Definition ergeben sich zwei natürliche Stellungen: entweder unmittelbar vor dem Verbum, oder wenn die Satzaussage negiert werden soll, am Anfange des Satzes."]

Delbrück's reconstruction basically contains the distinction between constituent negation and sentence negation. Translated into modern syntactic and pragmatic terminology, the negation occurs either immediately before phrasal constituents, preferably before the inflected verb and before other nonverbal constituents (constituent negation) or sentence-initially (broad-focus sentence negation). We find the differing range of the scope of negation associated with this divide. Constituent negation

scopes only over the constituent under its scope (narrow scope); cf., e.g., negation plus indefinite PIE **né kʷis* 'not (a single) one, none'; for attestations, see Dunkel 2014: 539–540. The negation of the finite verb has a somewhat wider scope, however, scoping over the tense phrase, while fronted, clause-initial negation in declaratives (sentential negation) provides the broadest and most pragmatically marked scope, to be glossed as 'it is not the case that …', 'by no means ….' (cf., for Latin, Devine & Stephens 2013: 359).

Tocharian basically matches Delbrück's reconstruction. For Tocharian, it can be argued that the default case for negation is to place the negator before the finite verb. Since negating the finite verb amounts to negating the basic proposition, preverbal negation qualifies as sentential, broad-scope negation. In contrast, narrow-scope constituent negation is implemented by placing the declarative negation immediately before the negated phrasal constituent. The negative particle normally cannot enter into adjective phrases (cf. §5 below). Pragmatically marked sentential negation is achieved by negative fronting in declaratives.

Since the morphosyntactic use of the negation is influenced by the utterance type, (declarative, interrogative, directive), I will document the use of the syntactic negation depending on clause type, beginning with declaratives, then continuing with interrogatives, and directives. Finally, I will discuss the construction of morphological negation of Tocharian (deverbal privatives).

2. Negation in declaratives

By default, the negative marker is placed immediately before finite verb, whether it is simple or complex. There are, of course, subsetting rules to be mentioned along the way.

2.1 Preverbal negation

In declaratives, the negative particle occurs by default before the inflected verb both in matrix declarative clauses and in subordinate clauses. West Tocharian examples from prose texts are given in (4–8):

Matrix declarative clause

(4) *aise* *mutkāntseś* *po* ***mā*** *tsuwa*
bowl:NOM mutkāntse:ALL wholly NEG fit:PRT.3SG
'The bowl didn't quite fit up to [the measure of] a *mutkāntse*.' (THT=B107a4, prose).

(5) *śmoññai* ***ma*** *kalpāṣṣäṃ*
place:OBL NEG reach:PRS.3SG
'He does not reach the goal.' (KVāc28b5, Schmidt 2018: 59, prose)

Subordinate clause

(6) *ṣamāne* *ytāri* ***mā*** *aiśtär*
monk:NOM way:OBL NEG know:PRS.3SG
'If a monk does not know the way (…).' (THT=B330a2, prose)

Subrules

Clitics may intervene between the negative and the finite verb, and the negative particle may intervene between a local particle (preverb) and the finite verb (as in Hittite; cf. Hoffner & Melchert 2008: 296 §20.7).

(7) *lau* ***mā*** *=ṣ* *masa*
away NEG =and go:PRT.3SG
'And he didn't go away.' (THT=B107a2, verse colon, Hackstein, Habata, Bross 2019: 13).

(8) *(śomiṃ)* ***mā*** *=śkaṃ* *tāk*
girl:NOM NEG =and.also be:PRT.3SG
'The girl no longer existed.' (THT640=A7a5–6)

Another subrule states that clause-final finite verbs allow the addition of small clauses:

(9) *amplākätte* ***mā*** *rittetär=me* *ostameṃ*
unpermitted NEG befit:PRS.3SG.MID=PRN.2PL house:ABL
lantsi
go:INF
'It doesn't befit you to leave the house without permission.' (THT108a2, prose, Hackstein, Habata, Bross 2019: 64–65, Onishi 2022: 68).

East Tocharian shows the same syntactic rules. I cite textual attestations from prose portions of the *Puṇyavantajātaka* in (10–11):

Matrix declarative clause

(10) *(kyalte* *nä)ṣ* *śolā* *sisāṃ* *rāmes* ***mā*** *esam*
for I:NOM life:PERL Sītā:OBL Rāma:GEN NEG give:PRS.1SG
'For I will never in my life give Sītā to Rāma.' (THT644=A10b5, prose)
wäṣpā *(pe)nu* *āñcäm* ***mā*** *naṣ*
forsooth even self:NOM NEG exist:PRS.3SG
'Forsooth, even a self does not exist.' (THT640=A7b3–4)

Subordinate clause

(11) *knānmune* *ats* ***mā*** *tāṣ* *=äṃ*
wisdom:NOM EMPH NEG be:SBJV.3SG =PRN.3SG
'if wisdom however is not to him' (THT638= A5a3)

The negation is placed before periphrastic verb forms:

(12) *täm* *tu* *yneś* ***mā*** *pälko* *naṣt*
that:OBL you:NOM before.eyes NEG seen:PTCP AUX:PRS.2SG
'You haven't seen that with your own eyes.' (A83+76b1, Thomas 1957: 247)

2.1.1 Negation of auxiliary-infinitive construction

Delbrück recognized that, for auxiliary constructions, the default word order was to place the negation immediately before the modal verb (Delbrück 1897: 522); compare the Vedic and Latin examples in (13) and (14), respectively.

Vedic

(13) *tato* *hainam* ***ná*** ***śekatur*** *nírhantum*
from.this EMPH.him NEG be.able:PRF.3PL away.beat:INF
'They could not beat him away from this.' (ŚB 1,1,4,17)

Latin

(14) *Ius* *amitti* ***non*** ***potest***
law:NOM loose:INF.MP NEG be.able:PRS.3SG
sine *magno* *incommodo* *civitatis.*
without great:ABL disadvantage:ABL state:gen
'The law cannot be lost without the great disadvantage of society.' (Cic. *Pro Caec*. 27).

The latter placement rule also holds for Tocharian, which places the negation immediately before the auxiliary, as seen in (15–16).

(15) *pärko* *yatsi* *nu* ***mā*** ***(cämpä)ṣ***
advantage:OBL do:INF now NEG can:PRS.3SG
'He cannot however provide an advantage.' (THT638=A5a4–5, prose); cf. above (8) *amplākätte* ***mā rittetär=****me ostameṃ lantsi*.

(16) *ṣñār* *ekñentasa* | *soytsi* *lāñco* ***mā*** ***campe(ṃ)***
their.own goods:PERL satiate:INF kings:NOM NEG can:PRS.3PL
'The kings are not capable of satiating themselves with their own goods.' (THT=B22a3, verse, Hackstein, Habata, Bross 2019: 192 [pāda 66a]).

2.1.2 Negation of periphrastic verb forms

A subrule states that periphrastic verb forms must not be interrupted. The negative particle is therefore placed before periphrastic verb forms; cf., e.g., the negated potential construction with negation plus gerund II and auxiliary in (17–18), and the negated periphrastic perfect featuring linearization of negation plus past participle and auxiliary in (19). Clitic particles may intervene between the negative particle and the participle, as illustrated by (18).

West Tocharian

(17) *comtsa* *śpālmeṃ* *dakṣiṇākeṃ*
that.one:PERL utterly worthy:OBL
mā *kälälyana* *nescer*
NEG find:GER2.NOM.PL.F AUX.PRS.2PL
'You won't find a person that would deserve more than that one.' (THT=B107b5–6, prose, [28]).

East Tocharian

(18) ***mā*** *nu* *yātalyi* *ṣeṣ*
NEG but be.able:GER2.NOM.F be:IMPF.3SG
lokit *lokitāp=äk* *yärk* *yatsi* *wätkässi*
guest:NOM guest:GEN=EMPH honor:OBL do:INF order:INF
'She would not be capable of being ordered as a guest to do a favor to a guest.' (THT639=A6a3–4, prose).

(19) *täm* *tu* *yneś* ***mā*** *pälko* *naṣt*
that:OBL you:NOM before.eyes NEG seen:PTCP AUX:PRS.2SG
'You haven't seen that with your own eyes.' (A83+76b1, prose, Thomas 1957: 247).

Another subrule states that negation is licensed to intervene between the participle and the auxiliary if the auxiliary is a clitic verb form. This applies to clitic copula Toch. B =*ste*, which attracts the negation, as shown in (20).

(20) *sā* *oṅkorño* *tañ* *śwālya* ***mā*** ***=ste***
this:NOM porridge:NOM you.SG:GEN eat:GER2:NOM NEG =AUX.PRS.3SG
'This porridge is not to be devoured by you.' (THT=B107a6, prose, Hackstein, Habata, Bross 2019: 25, [14]).

This latter type of placement may be considered a relic. We find it *inter alia* preserved in Latin; cf. Devine & Stephens (2006: 183): "the negation appears immediately before the auxiliary", as in (21).

(21) *Conloquendi* *Caesari* *causa* *visa* ***non*** ***=est***
consult.GER.GEN Caesar:DAT reason:NOM seen:PTCP:NOM NEG =AUX:PRS.3SG
'To Caesar there did not seem to be a reason to enter a consultation.' (Caes. *BG* 1.47)

2.1.3 Negation fronting

Fronting negation into the left periphery of declaratives serves to encode maximally broad scope over the entire proposition (sentential scope). The fronted negation can be rendered in English as 'It is not the case that …' or 'No way …'.

West Tocharian

(22) ***mā*** *no* *nta* *totka* *rano* *parna* *präntsitär*
NEG now even a.bit only outside squirt.IMPF.3SG
[The porridge was boiling.] '**But it wasn't the case that** the porridge squirted out even a little bit.' (THT=B107a1)

East Tocharian

(23) ***mā*** *täpreṃ* *saṃ* *poñcäṃ* *saṃsāris* *kāripac* *säspärtwu*
neg now any:NOM entire:GEN world:GEN damage:ALL caused:PTCP.NOM
ālak *wram* *naṣ* *kosne* *ālā(su)ne*
other:NOM thing:NOM exist:PRS.3SG like idleness:NOM
'**It is not the case that** there is now anything else that has caused [so much] damage to the world like idleness.' (A2= THT635a2–3, prose)

(24) ***mā*** *tä(preṃ)* *saṃ* *ālak* *wram*
NEG now any:NOM other:NOM thing:NOM
ārkiśoṣṣis *kāsu* *ypant* *naṣ*
world:GEN good:OBL doing:PRS.PTCP AUX.PRS.3SG
kosne *knānmune*
like knowledge
'**It is not the case** that there is now anything else that does [so much] good to the world like knowledge.' (A4= THT637a1–2, prose)

For Latin, see Devine & Stephens 2013: 359 and (25).

(25) ***Non*** *alio* *facinore* *clari* *homines*
NEG other:ABL crime:ABL famous:NOM people:NOM
alio *obscure* *necantur*
other:ABL not.famous:NOM kill:PRS.PRS.3.PL.MP
'**It is not the case that** famous people and not famous people are killed by different crimes.' (= 'People, whether famous or not, die of the same crimes.') (Cic. *Mil*. 17)

For Vedic, cf. (26).

(26) ***ná*** *hí* *paśávo* *ná* *bhuñjanti*
NEG CAUS.PTCL animal:NOM.PL NEG aid:PRS.3PL
'**For it is not the case that** domestic animals are not of use.' (MS 1.10.7,1; Delbrück 1888: 542; Amano 2009: 361)

2.1.4 Negated copular and existential clauses

Tocharian distinguishes between negated copular and negated existential clauses. Copular clauses show a non-overt or zero copula for the present indicative. This applies to both affirmative and negative clauses. Negated copular clauses therefore contain the negation plus a zero copula. In contrast, negated existential clauses require the copula to be overt. The dichotomy between these clause types, i.e., between negated copula plus covert present indicative copula and the negated existential demanding an overt existential verb, has gone unnoticed, but can be documented for all Indo-European languages (see Hackstein 2012).

Tocharian, too, frequently attests to the contrast between negated copular clauses with zero copula and negated existentials with overt existential verb. An instructive textual example of the cooccurrence of both clause types is the following verse passage containing gnomic poetry. (27a) features an affirmative copula clause (AffCop) with zero copula, (27b) a negated copular clause (NegCop) with zero copular, constrasting with a negative existential clause demanding an overt verbal operator (*verbum existentiae*) in (27c).

(27) *ket* *ṣäñ* *skwänma* *ma* *takaṃ*
who:GEN own pleasures NEG be:SBJV.3PL
'Who does not have his own pleasures,'
su *alyekmeṃ* *yaskästrä*
this.one:NOM another:ABL beg:PRS.3SG.MP
'he begs from another.'

(a) *yaṣu* *skwänma* *ket* *pälsko* [AffCop & zero Cop]
alms:NOM pleasures:NOM who:GEN thought:NOM
[and] to whom the thought [occurs]: 'alms are pleasures',

(b) *kärwa=skwänma* *ma* *skwänma* : [NegCop & zero Cop]
reeds=pleasures:NOM NEG pleasures:NOM
'[Yet] the pleasures of reeds (i.e., this-worldly pleasures) are not pleasures.'
rukṣä-pälsko *ṣe(k)* *klyeñkträ*
harsh-spirited:NOM always doubt:PRS.3SG.MP
'A harsh-spirited one constantly doubts:'

(c) *skwätse* *laute* *mā* *nesäṃ* [NegEx & verb exist]
pleasure.like:NOM moment:NOM NEG exist:PRS.3SG
'There is not an instant (*kṣaṇa*) of pleasure.' (THT=B255 (archaic) a3–5 + THT=B254 (archaic) a2–3, Bernard & Chen 2022: 13)

2.2 Narrow-focus constituent negation

Just as in other Indo-European languages, the negation of nominal constituents with DP status is carried out by moving the declarative negator, PIE **ne*, in front of the nominal constituents to be negated. This is illustrated for Tocharian by (28–29).

(28) *te-maṃt* ***mā*** ***ṣañ*** ***añm*** *kauc* *peññaträ*
this-way NEG own self:OBL highly praise:PRS.3SG
'Thus **neither himself** does he praise highly'
mā ***alyeṅkäṃ*** *sīnäṣṣäṃ*
NEG other:OBL.PL oppress:PRS.3SG
'**nor is it others** that he oppresses.' (THT=B558a3–4, prose)

(29) *snai* *epiṅkte* *śuddhawāsäṣṣi* *ñakti …* ***mā*** ***lauke***
without interval Śuddhāvāsa:NOM gods:NOM … NEG far
'Shortly thereafter the Śuddhāvāsa gods … **not far away**'
stāna *ñor* *lymāre*
trees:OBL beneath sit:PRT.3PL
'sat down beneath the trees.' (THT107b2, prose, Hackstein, Habata, Bross 2019: 38 [24]).

3. Negation in interrogatives

Several old Indo-European languages employ negative movement in order to formally distinguish between information-seeking and rhetorical questions. In general, low negation correlates with information-seeking questions, while high negation correlates with rhetorical questions. This syntactic bifurcation, which has been documented both for several older Indo-European languages and cross-linguistically (Hackstein 2016a, 2016b, 2018), applies both to polar and to *how*/*why*-questions. Its occurrence in Tocharian is illustrated in the following sections, 3.1 and 3.2.

3.1 Preverbal negation in information-seeking questions versus negation fronting in rhetorical questions in polar questions

In polar questions, Tocharian shows the formal divide between low-negation information-seeking and high-negation rhetorical questions. Contrast (30) with low negation in a non-rhetorical, information-seeking question, with (31), which features high negation in a rhetorical question.

(30) *talke* *māṃñe* *okāk* *träṅktsi* ***mā***$_{\text{LOW}}$ *kärsnāt*?
sacrifice hall again.until speak:INF NEG$_{\text{LOW}}$ know:PRS.2SG
'Is it the case that you cannot even utter the word 'sacrificial hall'?' (Toch. A YQ 1.17 [I.5] a7, Ji, Winter, Pinault 1998: 40f.)
Tocharian, high negation, rhetorical

(31) ***mā***$_{\text{HIGH}}$ *=wk* *soycer* *piścmelṣana* *läklenta(sa)*?
NEG$_{\text{HIGH}}$ =still be.satisfied:PRS.2PL five.births:PERL suffering:PERL
'Aren't you still fed up with the sufferings of the five births?' (THT=B12b4)

I have documented elsewhere that the same formal divide recurs in Latin, Greek, Vedic, and Hittite. It will suffice to cite an example from Latin. (32) is a low-negation information-seeking question inquiring about the factual non-occurrence of an event:

(32) *iis=ne* *rebus* *manus* *adferre* ***non***$_{\text{LOW}}$ *dubitasti*
this:ABL.PL=Q thing:ABL.PL hand:ACC.PL lay.on:INF NEG$_{\text{LOW}}$ doubt:PRF.2SG
'Did you not even refrain from laying your hands on these things (…)' (Cic. *Verr*. 4,101)

In contrast, (33) exemplifies negation fronting for an affirmative-bias rhetorical question:

(33) ***non***$_{\text{HIGH}}$*=ne* *eum* *graviter* *tulisse* *arbitramini …*?
NEG$_{\text{HIGH}}$=Q he:ACC seriously take:PRF.INF think:PRS.2PL.MP ….
'You certainly wouldn't think he regreted … , would you?' (Cic. *Verr*. 2,5,170)

3.2 Preverbal negation in information questions versus negation fronting in rhetorical questions with *why*

The syntactic bifurcation encountered with polar question recurs with *how/why* questions; cf. the Tocharian information-seeking question formed with *how/why* in (34), which demands low negation *in situ*, in contrast to the negated *how/why* rhetorical question in (35) showing fronted, high negation.

East Tocharian

(34) *mänt* *nu* *täṣ* *ptāñkät*
why now this:OBL buddha:NOM
käṣṣi ***mā***$_{\text{LOW}}$ *eṃtsitär=ñi*?
teacher:NOM NEG$_{\text{LOW}}$ seize:OPT.3SG.MP=me
'Why is it now that the Buddha-god, the teacher, would not be prepared to accept it from me?' (AYQ25 [III.6] b8, prose).

(35) *mänt* ***mā***$_{\text{HIGH}}$ *kāckäl* *eṣäntāp*
why NEG$_{\text{HIGH}}$ rejoice.GER.NOM giving:PRS.PTCP.GEN.SG
'Why shouldn't it cause joy for somebody to give (alms)?' (AYQ29 [I.2] a 5, prose).

3.3 Negative conditional

In general, the placement of negation in Tocharian adverbial subordinate clause does not differ from that of declaratives. In negated conditional clauses, the negation remains in immediately preverbal position, as in (36–37). Predicate nouns and auxiliaries may count as complex verb forms; see (36).

West Tocharian

(36) *kwri* *makte* *mā* *cimpamo* *tākaṃ*
if self NEG capable be:SBJV.3SG
'If he himself will not be able.' (KVāc17b1, Schmidt 2018: 53, prose).

East Tocharian

(37) *kuprene* *waṣtäṣ* ***mā*** *läñcäl* *ṣeṣ*
if house:ABL NEG leave:GER2 be:IMPF.3SG
'if he hadn't left the house' (THT654=A21a2).

In addition to conditional adverbial clauses with the overt complementizers [B]*kwri*, [A]*kuprene* ‘if’, both Tocharian languages also employ conditional adverbial clauses with silent complementizers. When negated, such conditionals frequently front the negation into the left-periphery, where it then usually falls in clause-initial position. Non-overt conditional complementizers license fronting of negation to the specifier position in sentence-initial position. Such fronted conditional negation establishes a contrasting or contrary condition and can be glossed as ‘but if not / if it is however not the case’. A representative example occurs in the story of the porridge brought as an offering to the Bodhisattva (38b).

(38) (a) *maharṣinta* *posa* *kreś* *tākacer*, *mant* *purwat* *oṅkarñai*
great.ṛṣi:nom of.all best be:sbjv.2pl thus accept:IMP.2PL porridge
‘If you the great Ṛṣis should be the best of all, (please) thus take the porridge.’
(b) ***mā*** *tākacer* *wesi* *pokses*
NEG be:SBJV.2PL us:GEN say:IMP:2PL
‘If, however, you should not be [the best], (please) tell us (which Ṛṣi is the best of all).’
(THT=B107b3 sentence [25], Hackstein, Habata & Bross 2019: 38–39).

Fronting of negation is employed, *inter alia*, to mark negative polar questions and to encode negated conditionals. Formal overlap between polar questions and conditionals is attested cross-linguistically (Haiman 1978: 570–571). What lurks beneath it is the conditioning of states and events that can be framed linguistically by a topic-raising polar question (Hackstein 2013). This overlap between negative-initial polar questions and negative-initial conditionals can further be documented for West Germanic and Latin (Hackstein 2013: 106–108, 109–110). Compare, for OHG, the negative-initial polar question in (39) and the negative-initial conditional in (40).

(39) ***né=***uuéist *tu* *dánne* *díh* *îeht ánderes* *sin?*
NEG=know.PRS.2SG you.NOM otherwise you.ACC something else be.INF
‘Don’t you know you’re nothing else?’ (Notker Nb03826, Boethius cons., translating *nihilne aliud te esse meministi*?)

(40) *kuning* *n=ist* *in* *worolti*,
king NEG=be.PS.3SG in world
‘There is no king on earth,’
ni *sî* *imo* *thiononti*
NEG be.PS.SBJV.3SG him:DAT serving
‘were it not that he be a servant of his.’ (Otfrid 1.5.48; Schrodt 2004: 182)

Fronting of negation in negated conditionals is conserved in the West Germanic negative-initial conditional formula (41), which underlies NHG *nur* and Dutch *maar*.

(41) OE *ne=wǣre*
OHG *ni=wâri*
MHG *ne=wære* > NHG *nur*; Dutch *maar*
NEG=be.PST.SBJV.3SG
‘were it not (that)’

And see for Latin, in the same vein, negation fronting in rhetorical polar questions in (42), and the fronted negation in negative conditionals in (43).

(42) *Non* *mi=st* *laterna* *in* *manu*?
NEG me:DAT=COP.PRS.3SG lamp in hand.ABL
‘Don’t I hold a lamp in my hand?’ (Pl. *Amph*. 406)

(43) *si* *in* *ius* *vocat*, *ito*.
if to court call:PRS.3SG go:PRS.IMPV.3SG
'If somebody summons someone else to appear in court, he (the defendant) shall go.'
ni *it*, *antestamino.*
NEG go.PRS.3SG call.for.witness.PRS.3SG.MP
'However, if he doesn't go, they shall call for a witness.' (*Leg*. XII. tab. 1.1)

4. Negation in directives

Like Greek, Armenian, Indo-Iranian, and Hittite[8], Tocharian morphologically differentiates between non-negated and negated directives, in that the imperative is confined to non-negated directives, while negated directives employ the present tense to encode an inhibitive prohibition, and the subjunctive is used to encode a preventive prohibition; see Thomas 1957/58, Krause & Thomas 1960: 180, and Hackstein, Habata, Bross 2019: 13–14. Prohibitive negation undergoes movement to the left periphery, occupying the highest position, but it may be crossed by a topic phrase; see section 4.4, example (49), below.

4.1 Inhibitive prohibitive (present indicative)

The Tocharian inhibitive prohibitive is exemplified by (44–46).

(44) (Somebody intends to deliver a child to the evil Rakṣas, and the child attempts to intervene by saying:)
mā *ñiś* *cempaṃts* *rakṣatsents* *aiṣṣäṃ*
NEG I:OBL these:GEN.PL rakṣa:GEN.PL GIVE:PRS[IND].3SG
'He must not give me to those Rakṣas!' (THT=B85a2)

(45) (A written form issued for caravans lists the people and goods admitted to pass by, terminating with the formula:)
auṣap *mā* *tärkanat*
more NEG admit:PRS[IND].2SG
'More (of them), don't let pass!' (PK Bois B3a4–5)

Buddha tries to console Ānanda, who is weeping because of Buddha's approaching Parinirvāṇa:

(46) *tusa* *tw≈ ānanda*
therefore simply=Ānanda
'Therefore [it's] just [so], Ānanda:'
mā *mäsketar* *läklessu*
NEG become:PRS.[IND].2SG worried
'Stop worrying!'
mā *ra* *klaiksotar*
NEG also be.depressed: PRS.[IND].2SG
'And likewise, stop being depressed!' (THT27a2, verse, Hackstein, Habata, Bross 2019: 227)

4.2 Preventive prohibitive (subjunctive)

Preventive prohibitives hosting subjunctives typically occur in prescriptive contexts; cf. (47) in the West Tocharian Buddhist *Karmavācanā*, dealing with specific rules of the ordination of Buddhist monks.

(47) *te-yäknece* *īke* *mā* *kātkat*
this-way.like:OBL place:OBL NEG go.beyond:SBJV.2SG
'Beyond a point like this – do not go!' (THT1103=KVāc 10a4, b2, prose, CeToM)

[8] Cf. Daues 2022.

4.3 Preventive prohibitive (optative)

Prescriptions of a more general or even gnomic meaning may use the optative instead of the subjunctive; cf. (48).

(48) *mā-yaläṃ* *wram* *mar* *yāmiṣ*
NEG-do.GER1.OBL thing:OBL NEG do:OPT.2SG
'(I wish) you may not do a thing not to be done.' (THT636=A3b3–4, verse)

4.4 The position of the prohibitive negation

A prohibitive negative can be crossed by a topic phrase. This subrule is attested for Tocharian, Hieroglyphic Luwian and Elean Greek in (49–51).

(49) *nerke* ***mā*** *mas*
delay:OBL NEG make.PRS.2SG
'Regarding a delay, don't cause (one)!' (PK L.C. XXVII.1, cf. Ching 2010 I: 232).

The fronting of a topic phrase over the prohibitive negation is also illustrated by (48) above.

Hieroglyphic Luwian

(50) *wanatiyantin=pa=wa=tu* *muwita* ***ni*** *tanti*
female:ACC=but=QUOT=3SG:DAT seed:ACC NEG put:PRS.3PL
'Female seed, however, they shall not take to her!' (KARKAMIŠ A11c §29; cf. Hawkins & Morpurgo-Davies 2010: 106–109.)

Greek, Elean dialect (4th c. BCE)

(51) *Taìr* *dè* *geneaìr* ***mà*** *phugadeíē[n]*
DEM:ACC.PL PTCL offspring:ACC.PL NEG ban.INF
'But the children (of an exile) one shall not exile. (Buck 1955: 262 no. 65,1; Siewert & Täuber 2013: 37)

5. Morphological Negation

Tocharian favors the deployment of the PIE morphological negator **n̥-* in verbal adjectives. The PIE negative prefix **n̥-* is found in Tocharian predominantly with *to*-participles in the guise of the so-called privatives like A *átäṅkät*, B *etáṅkätte* (cf. Hilmarsson 1991: 96–97) from PIE **ń̥-tn̥gʰ-to-* or B*ekámätte* 'not yet come; future' from PIE **ń̥-gʷm̥-to-*. East Tocharian *-ät* preserves the older, non-geminate shape of the underlying PIE suffix **-to-*, in contrast to its geminate pendant in West Tocharian *-ätte/-atte*, which likely reflects the suffix's heterosyllabic realization as **-ät.te/ *-at.te*. Additionally the gemination of <tt> may have been used to graphically indicate voiceless /t/, and thus the absence of intervocalic lenition, cf., e.g., B*táttaṃ*, as also suggested by a similar graphic convention in Khotanese (Ringe 1996: xxv, Pinault 2008: 614–615; for previous accounts, cf. Hilmarsson 1991: 15–16). In sum, the Tocharian privative continues the PIE deverbal type **ń̥-V-to-* as attested in (52–53).

(52) PIE **ĝn̥h₃-to-*: Goth. *kunþs* 'known', Lat. *nōtus*.
→ negated PIE **n̥-ĝn̥h₃-to-* 'ignorant': Goth. *unkunþs* 'unknown', OHG *unkund*, OE *uncūð* 'unknown', E *uncouth*, Lat. *ignōtus* 'unknown', *ignārus* 'not knowing', OIr. *ingnad* 'strange', Gk. ἀγνώς 'unknown, ignorant', ἄγνωστος 'unknown', Arm. *ancanawtʿ*, Ved. *ájñāta-*, Toch. B*aknātsa*, TochA *āknats* 'ignorant'.

(53) PIE **u̯id-to-* > **u̯itˢto-* > NHG *gewiss*, *ungewiss*, NFris. *was*, Lat. *vīsus*, OIr. *-fess*, G. *ge-wiss.*
→ negated PIE **n̥-u̯id-to-* > **n̥-u̯itˢto-* > NHG *ungewiss*, NFris. *ünwas* (Wilts 1986: 308), Lat. *invīsus* 'unseen', Hom. Gk. ἄϊστος 'invisible', Myc. <a-wi-to-do-to> /*Awisto-dotos*/ (García Ramón 2005: 86, 88–91).

Deverbal adjectives notwithstanding, Tocharian also derives denominative adjectives ([B]*aswāre* 'unsweet', Hilmarsson 1992: 128–130, cf. Lat. *insuāvis*). But this type is completely unproductive in Tocharian.

In Tocharian, there is a ban on the syntactic negation scoping over attributive adjectives to enter the adjective phrase. Instead, a rule inherited from PIE demands the use of morphological negation with the PIE privative prefix **n̥-*, as I have set out elsewhere in an article on the system of negation in Albanian (Hackstein 2020: 25).

(53) PIE **ne u̯eiḱdsos h₃rēk̂-s → *n̥-u̯eiḱdsos h₃rēk̂-s*
E **the not wise king → the unwise king* (Hackstein 2020: 25).

This phenomenon is found elsewhere in Indo-European; cf., e.g.,

(54) PIE **ne dʰgʷʰitóm ḱlétu̯os → *n̥-dʰgʷʰitom ḱlétu̯os*
E **not perishable fame → imperishable fame*

Hom. κλέος ἄφθιτον (Il. 9.413), Ved. *śrávas ákṣitam* (RV 1.9,7)

(55) τόδε πῆμ' ἄ-ελπτον
this:ACC.SG.N suffering:ACC.SG.N NEG-hoped:ACC.SG.N
'this suffering not to be hoped for', 'this undesirable suffering' (Aristophanes, *Persae* 1006).

Similarly, for the negation of attributive deverbal adjectives, Tocharian requires the morphological incorporation of the DP-internal negation in the attributive adjective phrase in the guise of the deverbal Tocharian privative formation, which is overtly comparable to PIE **n̥-dʰgʷʰitom* and Greek ἄ-ελπτον; cf. (56–57).

(56) *a-nautacc(e)* *aiśamñesa*
NEG-waning:OBL.SG knowledge:PERL
'because of his not-waning knowledge' (THT = B291a2).

(57) *an-aiwaceṃ-mpa* *ṣe* *śmalyñe*
NEG-pleasant:OBL.PL-COM together coming
'meeting with unpleasant people' (KVāc29a2, Schmidt 2018: 59, prose).

In a more recent layer, Tocharian B, like other Indo-European languages,[9] has begun to replace this prefixal negative with the syntactic negative [B]*mā*. This replacement has even assumed some regularity, especially so in the Tocharian translation of Indic compounds with privative *a-* (Sieg, Siegling & Schulze 1931: 304, Bernhard 1958: 40), but also outside translational contexts. Crucially, however, the syntactic negative is still chiefly employed for verbal negation, i.e., before verbal participles, which can count as small clauses; cf.

(58) *śukene* *mā* *tetreṅkoṣ* *palskosa*
enjoyment:LOC NEG bound:OBL.SG.M thinking:OBL.PERL.SG
'with the spirit not attached to enjoyment' (THT107b9, verse, sentence [33], Hackstein, Habata, Bross 2019: 48–49, which is not translated from Sanskrit, see Schmidt 2008: 329, Hackstein, Habata, Bross 2019: 50).

(59) *mā* *lkālye* *palsko* *pontas* *mäkte* *lya(kāte)*
NEG see:GER2.OBL.SG thinking:OBL.SG. all:GEN.PL how saw:PRT.3SG.MP
'how he saw the invisible thought of all.' (THT108b8, prose, sentence [32] Hackstein, Habata, Bross 2019: 91).

[9] E.g., in Baltic (Lith. *neláuktas* 'unexpected'), Slavic (Russ. *nevidimyj* 'invisible') and in Albanian (*jokapitalist* 'non-capitalist').

(60) *ot* *mā* *pralle* *msketär* *po* *wnolmeṃts*
then NEG bear:GER2.OBL.SG become:PRS.3SG all being:GEN.PL
'Then it comes to be unbearable for all beings.' (THT15b3+17b5, verse, pāda 17b, Hackstein, Habata, Bross 2019: 123–124).

On the whole, Tocharian fits with Delbrück's account of Indo-European morphological negation, according to which the lexical zero-grade negative **n̥-* had its original domain among deverbal adjectives and participles, and then spread from there to other adjective types as well as nouns:

> Consequently, we have to assume that word negation [morphological negation] arose through the negation of the declarative [through univerbation], and it is likely that the incorporation of the negative first targeted nominalized verb forms and then spread to adjectives and substantives (Delbrück 1897: 533). ["Hiernach darf man annehmen, dass die Wortnegation aus der Negation des Aussagesatzes entstanden ist, und es ist wahrscheinlich, dass zuerst die Verschmelzung mit solchen Wörtern vor sich ging, welche den Verbalbegriff in nominaler Form ausdrücken, und dass von da aus die Übertragung auf Eigenschaftswörter und Dingwörter erfolgte …"]

6. Conclusion

Regarding the morphosyntactic rules documented in this paper, Tocharian confirms many of the morphosyntactic properties of negation as documented by Delbrück for PIE without having access to the Tocharian evidence. On the whole, the syntax of negation in Tocharian is very similar to that of the Anatolian languages; see 1.2, and 4.4 on the position of the prohibitive negation. However, Tocharian also overlaps with Indo-Iranian and Greek, thus assuming an intermediate position between Anatolian, on the one hand, and the classical Indo-European languages, on the other:

– rigid OV type in declaratives, interrogatives, directives, postposing of appositions
– negation immediately before the inflected verb
– a distinction between negative existential clause with overt existential verb versus zero-verb (prs. ind.) in affirmative existential and affirmative/negative copular clause
– The privative adjective of Tocharian is comparable to the morphological type of Gk. ἄ-ελπτος 'undesirable' and Goth. *un–us-spilloþs**[un-told-out] 'untellable, inscrutable, inexplicable'.

Abbreviations

CEToM = A Comprehensive Edition of Tocharian Manuscripts. Created and maintained by Melanie Malzahn, Martin Braun, Hannes A. Fellner, and Bernhard Koller. https://cetom.univie.ac.at/.

DTA = Carling, Gerd, Georges-Jean Pinault. 2023. *Dictionary and Thesaurus of Tocharian A*. Wiesbaden, Harrassowitz.

eDiAna = Digital Philological-Etymological Dictionary of the Minor Ancient Anatolian Corpus Languages, under the supervision of Elisabeth Rieken, Jared Miller and Olav Hackstein as principal investigators. URL https://www.ediana.gwi.uni-muenchen.de/.

EWA = Etymologisches Wörterbuch des Althochdeutschen. Von A. L. Lloyd, R. Lühr & O. Springer. 6 Bde., 1988–2017. Göttingen, Vandenhoeck & Ruprecht.

Bibliography

Adams Douglas Q., 2013, *A Dictionary of Tocharian B. Revised and Greatly Enlarged*. Amsterdam/New York, Rodopi.

Adams Douglas Q., 2015, *Tocharian B: A Grammar of Syntax and Word-Formation.* Innsbruck, Institut für Sprachen und Literaturen der Universität Innsbruck.

Amano Kyoko, 2009, *Maitrāyāṇī Saṁhitā I–II. Übersetzung der Prosapartien mit Kommentar zur Lexik und Syntax der älteren vedischen Prosa*. Bremen, Hempen Verlag.

Barnes Timothy, 2022/23, Anatolian and Indo-European legal language (I). Hittite *āra*, *natta āra*, a Hieroglyphic Luwian crux, and a Tocharian parallel, in *Die Sprache* 55, pp. 27–60.

Bernard Chams Benoît, Ruixan Chen, 2022, A fall into the pit: remarks on Tocharian B *koṣko*, *koṣkīye*, in *Indo-Iranian Journal* 65, pp. 1–31.

Bernhard Fanz, 1958, *Die Nominalkomposition im Tocharischen.* Doktoraldissertation Göttingen.
Buck Carl Darling 1955, *The Greek Dialects. Grammar, Selected Inscriptions, Glossary*. Chicago/London, The University of Chicago Press.
Carling Gerd, 2017, The syntax of Tocharian, in Klein Jared, Joseph Brian, Fritz Matthias (eds.), *Handbook of Comparative and Historical Linguistics*. Berlin/Boston: De Gruyter, Mouton (HSK 41.2), pp. 1352–1364.
Ching Chao-jung, 2010, *Secular Documents in Tocharian: Buddhist Economy and Society in the Kucha Region*. Volume I. Doctoral dissertation. Paris, École Pratique des Hautes Études.
Daues Alexandra, 2022, Zum Prohibitiv im Hethitischen: Präventive und inhibitive Funktion, in Becker Kristina, Bichlmeier Harald, Kölligan Daniel, Quadrio Tiziana, Roth Theresa (eds.), *Συντακτικός. Studien zur historischen Syntax, Pragmatik und Etymologie der indogermanischen Sprachen. Gedenkschrift für Heinrich Hettrich*. Hamburg, Baar Verlag, pp. 101–118.
Delbrück Bertold, 1888 *Altindische Syntax*. Halle a. d. Saale, Waisenhaus der Franckeschen Stiftungen. Nachdruck Darmstadt 1968, Wissenschaftliche Buchgesellschaft (= Syntaktische Forschungen 5).
Delbrück Berthold, 1897, *Vergleichende Syntax der indogermanischen Sprachen*. Vierter Band. Strassburg, Karl J. Trübner.
Devine Andrew M., Stephens Laurence D., 2006, *Latin Word Order.* Oxford, University Press.
Devine Andrew M., Stephens Laurence D., 2013, *Semantics for Latin*. *An Introduction*. Oxford, University Press.
Dunkel George E., 2014, *Lexikon der indogermanischen Partikeln und Pronominalstämme. Band 2: Lexikon*. Heidelberg, Carl Winter.
Fellner Hannes A., 2021, Polar Life in the Tarim Basin, in Fellner Hannes A., Malzahn Melanie, Peyrot Michaël (eds.), *Lyuke wmer ra. Indo-European Studies in Honor of Georges-Jean Pinault*. Ann Arbor/New York, Beech Stave Press, pp. 125–137.
Fortson Benjamin W. IV., 2018/19, Never say never. A new proposal for Armenian *oč^{c}*, in *Die Sprache* 53,1, pp. 65–84.
Fries Simon, 2020, Untersuchungen über die lautgesetzliche Entstehung der Negationen lat. *nē*, *nōn*, *nī* und ihrer indogermanischen Entsprechungen, in *International Journal of Diachronic Linguistics* 17, pp. 65–154.
García Ramón José Luis, 2005, Anthroponymica Mycenaea 5. *a-wi-to-do-to* /*Awisto-dotos*/ und die unsichtbaren Götter im Alph.-Griechischen. 6. *we-re-na-ko* /*Wrēn-āgos*/ oder /*Wrēn-ăkos*/ und Myk. */*wrēn*/ : alph.-gr. °ρρην, ἀρήν, in *Živa Antika* 55, pp. 85–97.
Hackstein Olav, 2003, Apposition and word-order typology in Indo-European, in Bauer Brigitte, Pinault Georges-Jean (eds.), *Language in Space and Time. A Festschrift für Werner Winter on the Occasion of his 80th Birthday*. Berlin/New York, Mouton de Gruyter, pp. 131–152.
Hackstein Olav, 2010, *Apposition and Nominal Classification in Indo-European and Beyond*. Wien, Verlag der Österreichischen Akademie der Wissenschaften.
Hackstein Olav, 2012, Der negative Existentialsatz im Indogermanischen, in *Historische Sprachforschung* 125, pp. 123–142.
Hackstein Olav, 2013, Polar questions and non-headed conditionals in a cross-linguistic and historical perspective, in Slade Benjamin, Chen Shu-Fen (eds.), *Grammatica et verba. Glamor and verve*. *Studies in South Asian, Historical, and Indo-*European Linguistics in Honor of Hans Henrich Hock on the Occasion of His Seventy-Fifth Birthday*. Ann Arbor/Michigan, Beech Stave Press, pp. 99–116.
Hackstein Olav, 2016a, Rhetorical Questions and Negation in Ancient Indo-European Languages, in Katz Joshua T., Vine Brent, Weiss Michael (eds.), *Sahasram Ati Srajas. Indo-Iranian and Indo-European Studies in Honor of Stephanie W. Jamison*. Ann Arbor, Beech Stave Press, pp. 96–102.
Hackstein Olav, 2016b., Negative Interrogatives *and whatnot*: The Conversion of Negation in Indo-European, in *Indo-European Linguistics* 4, pp. 150–189. Open access: https://doi.org/10.1163/22125892-00401005.
Hackstein Olav, 2016/17, Multipartite negation markers and phasal adverbs in Ancient Indo-European languages, in *Münchener Studien zur Sprachwissenschaft* 70,2, pp. 215–253.
Hackstein Olav, 2018, Formale Merkmale negierter rhetorischer Fragen im Hethitischen und in älteren indogermanischen Sprachen, in Rieken Elisabeth (eds.) unter Mitwirkung von Ulrich Geupel und Theresa Maria Roth, *100 Jahre Entzifferung des Hethitischen. Morphosyntaktische Kategorien in Sprachgeschichte und Forschung.* Akten der Arbeitstagung der Indogermanischen Gesellschaft vom 21. bis 23. September 2015 in Marburg. Wiesbaden, Reichert, pp. 103–120.
Hackstein Olav, 2018, Neg>Q: Die lateinische Interrogativpartikel *-ne*, in Hackstein Olav, Opfermann Andreas (eds.), *Priscis Libentius, Liberius Novis*. *Sprachwissenschaftliche und Indogermanistische Studien. Festschrift für Gerhard Meiser zum 65. Geburtstag*. Hamburg, Baar Verlag, pp. 65–72.

Hackstein Olav, 2020, The System of Negation in Albanian: Synchronic Constraints and Diachronic Explanations, in Demiray Bardhyl (ed.), *Altalbanische Schriftkultur – aus der Perspektive der historischen Lexikographie und der Philologie der Gegenwart. Akten der 6. Deutsch-Albanischen Kulturwissenschaftlichen Tagung (27. September 2019, Buçimas bei Pogradec, Albanien)*. Wiesbaden, Harrassowitz, pp. 13–32.

Hackstein Olav, Habata Hiromi, Bross Christoph, 2019, *Tocharische Texte zur Buddhalegende*. Dettelbach, Röll-Verlag.

Hawkins J. David, Morpurgo Davies Anna, 2010, More negatives and disjunctives in Hieroglyphic Luwian, in Kim Ronald, Oettinger Norbert, Rieken Elisabeth, Weiss Michael (eds.), *Ex Anatolia Lux. Anatolian and Indo-European studies in honor of H. Craig Melchert on the occasion of his sixty-fifth birthday*. Ann Arbor/New York, Beech Stave Press, pp. 98–128.

Haiman John, 1978, Conditionals are topics, in *Language* 54,3, pp. 564–589.

Hilmarsson Jörundur, 1991, *The Nasal Prefixes in Tocharian. A Study in Word Formation*. Reykjavík, Málvísindastofnun Háskóla Íslands.

Hirt Hermann, 1937, *Indogermanische Grammatik*. Teil VII. Syntax II. Die Lehre vom einfachen und zusammengesetzen Satz. Heidelberg, Carl Winter.

Hoffner Harry A., Melchert H. Craig, 2008, *A Grammar of the Hittite Language*. Winona Lake/Indiana, Eisenbrowns.

Joseph Brian, 2022, Here's to a long life! Albanian reflections of Proto-Indo-European semantics, in Bianconi Michele, Capano Marta (eds.), *Contact, Variation, and Reconstruction in the Ancient Indo-European Languages: Between Linguistics and Philology*. Leiden, Brill, pp. 301–312.

Keydana Götz, 2018, The syntax of Proto-Indo-European, in Klein Jared, Joseph Brian, Fritz Matthias (eds.), *Handbook of Comparative and Historical Linguistics* (HSK 41.3). Berlin/Boston, De Gruyter, Mouton, pp. 2195–2228.

Kim Ronald I., 2018, *The Dual in Tocharian. From Typology to Auslautgesetz*. Dettelbach, J.H. Röll.

Klein Jared S., 2016, Rigvedic *u* and related forms elsewhere: a reassessment forty years later, in Gunkel Dieter, Katz Joshua T., Vine Brent, Weiss Michael (eds.), *Sahasram Ati Srajas. Indo-Iranian and Indo-European Studies in Honor of Stephanie W. Jamison*. Ann Arbor/New York, Beech Stave Press, pp. 193–205.

Krause Wolfgang, Thomas Werner, 1960, *Tocharisches Elementarbuch. Band 1: Grammatik.* Heidelberg, Carl Winter.

Lühr Rosemarie, 2000, *Die Gedichte des Skalden Egill*. Dettelbach, J.H. Röll.

Oettinger Norbert, 2002, *Die Stammbildung des hethitischen Verbums.* Nachdruck mit einer Revision der hethitischen Verbalklassen. Dresden, Verlag der TU Dresden.

Onishi Teigo, 2022, *Pronominal Clitics in Tocharian: A Study in the Morphology-Syntax Interface*. Ph.D Dissertation. Los Angeles, University of California at Los Angeles.

Payne Annick, Bauer Anna, Sasseville David, Hackstein Olav, 2023, Proto-Anatolian **ne* (eDiAna-ID 3145), in *eDiAna*. URL: http://www.ediana.gwi.uni-muenchen.de/dictionary.php?lemma=3145) last visited on 26/07/2023.

Peyrot Michael, 2013, *The Tocharian Subjunctive*. Leiden, Brill.

Pinault Georges-Jean, 2000, Narration dramatisée et narration en peinture dans la région de Kucha, in Drège Jean-Pierre (ed.), *La Sérinde, terre d'échanges. Art, religion, commerce, du I^er^ au X^e^ siècle. Actes du colloque international. Galeries nationales du Grand Palais, 13-14-15 février 1996*. Paris, La Documentation française, pp. 149–168.

Pinault Georges-Jean, 2008, *Chrestomathie tokharienne. Textes et grammaire*. Leuven/Paris, Peeters.

Plötz Oliver, 2022, Alte und neue Theorien zur Grammatikalisierung der idg. Prohibitivpartikel **meh*$_1$, in Sommer Florian (ed.), *Indogermanische Morphologie in erweiterter Sicht*, Wiesbaden, Reichert, pp. 345–371.

Ringe Don, 1996, *On the Chronology of Sound Changes in Tocharian. Volume I: From Proto-Indo-European to Proto-Tocharian*. New Haven/Connecticut, American Oriental Society.

Schmid Klaus. T., 2008, THT 107 "Die Speisung des Bodhisattva vor der Erleuchtung". Die westtocharische Version im Vergleich mit der Sanskritfassung der Mūlasarvāstivādins, in Zieme Peter (ed.), *Silk Road Studies XVI. Aspects of Research into Central Asian Buddhism. In memoriam Kōgi Kudara*. Turnhout, Brepols, pp. 309–342.

Schmidt Klaus T., 2010, Die Entzifferung der westtocharischen Überschriften zu einem Bilderzyklus des Buddhalebens in der "Treppenhöhle" (Höhle 110) in Qizil, in Franco Eli, Zin Monika (eds.), *From Turfan to Ajanta. Festschrift for Dieter Schlingloff on the Occasion of His Eightieth Birthday*. 2 Bände. Lumbini, Lumbini International Research Institute, pp. 835–866.

Schmidt Klaus T., 2018, *Klaus T. Schmidt Nachgelassene Schriften. 1. Ein westtocharisches Ordinationsritual. 2. Eine dritte tocharische Sprache: Lolanisch.* Bearbeitet und herausgegeben vom Stefan Zimmer. Bremen, Hempen.

Schmidt Gernot, 1962, *Studien zum germanischen Adverb*. Doktoraldissertation Hamburg, Selbstverlag.

Schrodt Richard, 2004, *Althochdeutsche Grammatik II. Syntax*. Tübingen, Max Niemeyer.

Sieg Emil, Siegling Wilhelm, Schulze Wilhelm, 1931, *Tocharische Grammatik*. Göttingen, Vandenhoeck & Ruprecht.

Siewert Peter, Täuber Hans, 2013, *Neue Inschriften von Olympia. Die ab 1896 veröffentlichten Texte*. Wien, Holzhausen.

Thomas Werner, 1957/58, Zum Gebrauch des prohibitiven *mar* bzw. *mā* im Tocharischen, in *Central Asiatic Journal* 3, pp. 289–308.

Wilts Ommo, 1986, *Wurdenbuk för Feer an Oomram. Wörterbuch der friesischen Gegenwartssprache von Föhr und Amrum.* Mit Hilfe von Elene Braren und Nickels Hinrichsen zusammengestellt von Ommo Wilts. Insel Amrum, Verlag Jens Quedens.